

## ABSTRACT

5       The present invention provides methods and compositions for photodynamic  
therapy. The composition comprises ceramic nanoparticles in which a  
photosensitive drug/dye is entrapped. The ceramic nanoparticles are made by  
formation of a micellar composition of the dye. The ceramic material is added to the  
micellar composition and the ceramic nanoparticles are precipitated by alkaline  
hydrolysis. The precipitated nanoparticles in which the photosensitive dye/drug is  
10       entrapped can be isolated by dialysis. The resulting drug doped nanoparticles are  
spherical, highly monodispersed, and stable in aqueous system. Irradiation with  
light of suitable wavelength of the photosensitizing drug entrapped inside  
nanoparticles resulted in generation of singlet oxygen, which was able to diffuse out  
through the pores of the ceramic matrix. The drug loaded ceramic nanoparticles of  
15       the present invention can be used as drug carriers for photodynamic therapy.

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